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The effectiveness of videotape recorded feedback on the facilitation of behavior change in three institutionalized adults

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THE EFFECTIVENESS OF VIDEOTAPE RECORDED FEEDBACK ON THE FACILITATION OF BEHAVIOR CHANGE IN THREE INSTITUTIONALIZED ADULTS

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Abstract

The effectiveness of videotape recorded feedback on reducing the rate of inappropriate, bizarre mannerisms in hospitalized individuals was examined using a multiple baseline design across three subjects. Results indicate that the technique was effective in reducing the rate of these behaviors in the treatment setting. Data on generalization of treatment effects were inconclusive. Theoretical explanations for the procedure's effectiveness are discussed.

THE EFFECTIVENESS OF VIDEOTAPE RECORDED FEEDBACK ON THE FACILITATION OF BEHAVIOR CHANGE IN THREE INSTITUTIONALIZED ADULTS

Videotape recording technology has recently become easily available to psychologists working with a wide variety of subject populations in both research and treatment settings. Numerous schools, mental health centers, and residential institutions have been stocked with the necessary equipment, and practitioners have been examining a broad number of possible applications of the medium (Stern, 1976). These applications span an interesting array of treatment modalities, each stressing the usefulness of videotape recording procedures to facilitate behavior change. Specific techniques that have incorporated the use of videotaping apparatus include individual and group psychotherapy (Bailey & Sowder, 1970), systematic desensitization (Beck, 1972; Caird & Wincze, 1974; Lautch, 1970; Parker, 1975; Woody & Schaubel, 1969), modeling (Frankel, 1971; Fryean & Werner, 1970; Nelson, Gibson, & Cutting, 1973; Rathus, 1973; Reynolds, 1975), and implosion (Dee, 1970). However, the technique most frequently associated with the use of VTR technology, in both behavioral and nonbehavioral psychology, is videotaped feedback. Despite wide use of

videotape recording procedures, there are only a few convincing studies that demonstrate effectiveness in changing behavior.

In the nonbehaviorally oriented literature, videotape feedback of an individual's behavior is frequently described in terms of "self-cognition," "self-image experience," or "self-confrontation," and involves the viewing of the client's behavior in either a group therapy situation (Robinson & Jacob, 1970) or individual psychotherapy sessions (Kagan, 1963). These techniques typically involve the therapist re-running a video sequence and pointing out instances of the client's performance of appropriate and inappropriate interaction responses and/or instances of verbal behavior which the therapist feels represents important aspects of a previous communication.

Some of the areas that have been explored by psychotherapists in their use of VTR feedback have been "overcoming resistance," "increasing motivation for psychotherapy" and "shocking" alcoholics "back into reality" (Griffiths, 1974). Braucht (1970) videotaped group psychotherapy sessions involving institutionalized psychotics, played these tapes back to the groups, and pointed out to them positive aspects of their social interaction behavior. His conclusions, based on ratings made by himself and pre- and posttest scores on personality inventories, indicated that the VTR feedback increased levels of self-concept but made no

significant change in measures of the patients' self-esteem. Robinson and Jacobs (1970) followed group psychotherapy sessions with self-viewing of videotapes combined with "directed comment" and compared the results obtained on a checklist of possible behaviors in later sessions with groups not exposed to VTR feedback. Items on the checklist were subjective, pertaining to such concepts as "covering up true feelings," "making wisecracks," "reaching warmly to other members of the group," etc. Their results indicate a greater improvement for the group exposed to the VTR feedback, leading them to conclude that exposure to such an objective transcript of group behavior was quite beneficial to their clients.

Bailey and Sowder (1970) point out that while self-confrontation techniques receive high personal acceptance by psychotherapists, little experimental evidence exists to substantiate their effectiveness. Studies in the nonbehavioral literature are typically case studies, and proposed clinical explanations of change are often based on "post-hoc rationalization" (Griffiths, 1974). In his survey of studies reported to 1973, Griffiths reported that among the more common problems in evaluative research on VTR feedback in psychotherapeutic situations are (a) the lack of control groups, (b) the use of assessment procedures whose reliability is unknown, and (c) the failure to study generalization over time. Without prior targeting of desired changes, the

self-confrontation technique is reduced in practicality to a trial-and-error therapy, with the practitioner simply guessing at possible changes in the individual attributed to the treatment through after-the-fact analysis of the client's general improvement. In addition, such procedures do not allow for the clear demonstration of control necessary for convincing proof of effectiveness. In order for proponents of self-confrontation techniques to establish reasonable confidence in their methodologies, much more rigorous experimentation, coupled with clear definitions of desired changes made prior to technique implementation, are necessary before self-confrontation techniques as discussed in the non-behavioral literature can be judged effective and worthwhile.

Although these studies typically have serious flaws that cast doubt on the validity of their results, they do consistently report that the process of viewing one's self on a television monitor results in changes in the treated individuals after the experience. This points to the possibility that viewing a selected sample of one's own behavior can result in the facilitation of behavior change. Evidence in basic research points to the fact that there may even be a brief change in certain physiological processes, such as pulse rate, when a subject is suddenly confronted with a reproduction of his past behavior. For example, Holzman, Rousey, and Snyder (1966) recorded 7 second segments of a

subject's voice and played a segment back to him along with similar segments of 19 additional voices. Galvanic skin responses, plethysmographic responses, and frontalis EMG were recorded while the subjects listened to the 20 tapes. The physiological data indicated a significantly greater rise in activation when the subject listened to his or her own voice. The experimenters point out that this activation occurred in some subjects even though they indicated they did not consciously recognize that they were listening to their own voice. Generalizing these findings to the area of video feedback, it seems reasonable to expect that such responses may occur in this mode of communication as well, indicating the possibility that a subject may be much more likely to attend to aspects of his behavior when viewed on a television screen than when merely receiving a description and evaluation of the behavior by a clinician.

Behavioral psychologists have also looked at VTR feedback as a means of producing behavior change. In contrast, however, to the nonbehavioral approaches described above, behavioral uses of VTR feedback stress the clear definition of problem behaviors before intervention, the use of trained observers, and the careful gathering of reliable data on which to evaluate the effectiveness of results.

Several important behavioral studies have shown that very precise feedback on an individual's behavior can produce clinically relevant change. Leitenberg, Agras, Thompson,

and Wright (1968) provided two phobic subjects with information on the exact number of seconds they were able to confront "feared" stimuli. Feedback of these time scores was sufficient to gradually increase the time spent in the fearful situation. When feedback was withdrawn, the ability to remain comfortably in the setting decreased. Interested in the role that verbal praise contingent upon lengthened time in the situation would play on the feedback condition, Leitenberg, et al instituted such a contingency with one of the subjects. It was found that motivation plus feedback did not increase the amount of time spent in the presence of the feared stimuli over the feedback only condition. Drabman and Lahey (1974) studied the effects of simple feedback on an elementary school child's behavior and the behavior of her classmates. In an A-B-A-B design, feedback on disruptive behavior was given to the subject after successive 10 minute classroom segments of observation, was then discontinued, and then reinstated in the same manner as before. Data were also taken to determine what effects the feedback might have on the behavior of the target child's classmates. The results appear to indicate that feedback alone produced a decrease in disruptive behaviors not only for the subject, but also for the subject's peers. An additional study in the classroom supports Drabman and Lahey's results. Van Houten, Morrison, Jarvis, and McDonald (1974) examined the effects of feedback on the number of words

produced, posting the results on a public bulletin board, and giving instructions that the students should attempt to exceed their own highest score. Independent judges were used to rate the compositions along subjective dimensions of equality. The feedback produced a doubling of rate of words produced and an increase in the subjective ratings of judges who were naive to the phases of the experiment. Although not directly comparable to the Drabman and Lahey procedure, it is evident that precise feedback can be expected to alter behaviors of "normal" elementary school children.

From the results of research like that cited in the above paragraph, it becomes evident that precise feedback can be effective in producing behavior change. Importantly, in all of these examples, the experimenter carefully presented the feedback in numeric form, with the exception of Van Houten et al. who presented verbal information based on 10 minute intervals of ongoing data collection. Videotaped feedback may be more global and evaluative in nature, since viewing a targeted behavior actually being performed is quite different from being presented with a symbolic representation of it. But, intuitively, it would seem that since the feedback contained in a videotaped sequence of recently emitted behavior contains many more pieces of information than numerical feedback (such as response related stimuli present in the original situation) it would be effective, if not more so, than feedback contained in

numeric or verbal form.

The question of which of the two forms of feedback, videotaped or symbolic, is more effective is a difficult one to answer. The symbolic quantification of behavior through numeric scores certainly gives rise to a meaningful condensation of the actual behavior sequence, but much information is lost in this process of condensation. For example, if a subject is told that 12 instances of delusional talk occurred in a 10 minute conversation which took place 20 minutes previously, the subject learns that he did indeed speak bizarrely, but he receives no information from the data on the content of the speech, how he actually sounded when emitting the speech, etc. On the other hand, VTR feedback produces many such stimuli related to the actual behaviors, and in addition lends itself to easy quantification by the therapist or even by the subject himself if so desired. It may be reasonable to expect, then, that VTR feedback would facilitate change in a target behavior if the more condensed feedback discussed above has been so often effective, and a combination of the two might be even more so.

Several behavioral researchers have attempted to determine the effectiveness of incorporating such feedback procedures into interventions designed to produce changes in behavior. Galassi, Galassi, and Gitz (1974) used VTR feedback to train assertive behaviors to college under-

graduates. The VTR feedback was part of a very large training package which also included behavioral rehearsal, trainer comment, and modeling. The feedback component of the package consisted of viewing samples of rehearsed behavior with comment from the trainer on appropriate or inappropriate performance. Although the effects of VTR feedback alone are not demonstrable in the investigation, students ranked VTR feedback plus trainer comments as the most helpful component. Lindquist (1975) evaluated the use of VTR feedback on modifying public speaking anxiety in two groups of college students. He presented one group of college students with videotaped sequences of their own public speaking behavior and a second group with sequences plus a checklist. On later evaluations by the experimenter, he found that VTR feedback alone was not as effective as VTR feedback combined with self-evaluative checklists. He contended that fairly structured VTR feedback is needed to assist the subjective evaluation of the self-viewing experience. Without a checklist-only group, however, the role of the VTR feedback remains unclear, since the use of the checklist alone could possibly produce results equivalent to the VTR and checklist group.

Esveldt, Dawson and Forness (1974) used VTR feedback to change classroom behaviors of elementary school children. They compared the effects of a standard teacher conference, VTR feedback, and VTR feedback with discussion on inappropriate

classroom behaviors in two 10 year old, male subjects. They found that viewing the tape alone decreased inappropriate behavior in both subjects. Discussion of the videotape with the teacher added to the decrease for one subject, but not for the other. Both subjects exhibited a concurrent increase in appropriate classroom behaviors. Interestingly, the process of viewing the inappropriate behavior was sufficient in itself to produce significant decreases in the target behaviors.

Bernal (1968; 1969) used VTR feedback to train the appropriate use of behavior modification techniques to mothers of children exhibiting high rates of "brat" behaviors. Bernal (1969) showed videotapes of in-clinic mother-son interactions to two mothers seeking help to control their abusive children. In addition to the videotape replay, the mothers received instructions in behavior modification training principles from the investigator. Bernal states that gradual shaping of the mother's behaviors by the use of VTR feedback resulted in a reduction of brat behaviors in the two boys. But, importantly, it was not possible for the investigator to separate the effects of learning behavioral principles from the effects of the VTR feedback. However, both mothers did report that the VTR sequences were quite effective in producing awareness of the inadequacies in the way they interacted with their children.

Although videotape feedback has been used with several populations, the effects of videotape feedback of behavior sequences on specific idiosyncratic, maladaptive behaviors of institutionalized "psychotic" populations has not been clearly established. Several of the studies discussed earlier concerning this population have dealt with vague, global changes that were discovered through ratings by clinical personnel or self-report inventories. Shean and Williams (1973) and Lapuc, Sims, Sims and Freiband (Note 1) have investigated the effectiveness of VTR techniques with emphasis on the direct observation of specific behaviors, such as motor tics and delusional talk, targeted prior to videotape intervention procedures. The Shean and Williams study consisted of three groups of chronically hospitalized psychiatric patients. One group received discussion plus VTR feedback, one group received discussion only, and one group received no discussion or feedback. Discussion was carried out in a typical group therapy format, with the participants engaging in "reality oriented discussions of interpersonal problems and post-hospital plans" (p. 164). The first feedback procedure used was labeled "unfocused" and the second "focused." The unfocused feedback consisted of presenting the tapes after the session and analyzing results from pre- and post self-concept ratings, ward adjustment ratings and nurses' ratings of the occurrence

of specific maladaptive behaviors, specifically motor tics and delusional talk. In both the unfocused and focused feedback procedures, the feedback group evidenced significantly fewer maladaptive behaviors per session than the other two groups. Generalization of the unfocused feedback procedure was measured by asking ward staff to rate the behavior as better, same or worse than before intervention. The feedback group was rated as having a lower frequency of targeted behaviors at that time. Since no direct observations on the ward were made to establish the reliability of the nurses' ratings, one must remain skeptical as to the actual generalization effects. Generalization of the focused feedback effects was measured by direct observation one month after procedure implementation. Fifty percent of the subjects evidenced noticeable generalization of treatment.

Lapuc et al. investigated videotape feedback as a tool for use in changing verbal behavior. In a group design, the investigators assigned group members to dyads and asked them to "do whatever you want." One group received no feedback, one group received replay each time a nonrepetitive verbal interchange took place, and one group viewed the entire 10 minute tape after the experimental session had ended. The findings indicate that the feedback procedures led to an increase in verbal interaction while non-feedback did not. There was no difference between the two feedback

conditions. Ward data on the amount of time spent in verbal interactions indicate significant generalization for the two feedback groups, with neither feedback group superior to the other. The authors state that the feedback evidently helped the individuals to become aware of what aspects of their verbal behavior were deficient and what aspects were not.

Both of these studies lack clear and precise information on the type of behavior dealt with, operant and treatment levels of the behavior, and adequate follow-up data. The group designs used clearly indicate that feedback is more effective for decreasing maladaptive behaviors than therapy alone, but little can be said about the clinical, as opposed to the statistical, significance of the technique. Shean and Williams completed their investigation with three month follow-up ratings by nursing staff, but the authors failed to see these data as indication of socially relevant change and instead considered it as only a measure of treatment generalization and maintenance. However, this type of data could also be indicative of change that can be perceived by direct line staff and is therefore of more than statistical interest.

A technique that requires a subject to view sequences of his own inappropriate behavior needs to be carefully investigated with repeated measurements on individual subjects, in order to determine not only overall effects but

also the rate and magnitude of effects with respect to baseline levels of the behavior in question. Direct observation of the change in the treatment setting and on the living unit needs to be done concurrently to establish the degree to which the change generalizes to other settings. Stokes and Baer (1977) have recently pointed out that assessment of generalization is extremely important in evaluating the effectiveness of new procedures. Further, specific and discrete behaviors need to be targeted prior to intervention so that the success of change can be scrutinized very closely in at least one pre-selected behavior, thus providing an analysis of VTR feedback techniques on pre-targeted behaviors in this population. Therefore, the present investigation sought to provide an analysis of the effects of VTR feedback of sequences of specific, inappropriate behaviors on individual hospitalized psychiatric patients by carefully specifying target behaviors, and by repeated direct observation of these behaviors over time in both treatment and living unit settings. In addition, the experiment sought to empirically determine the importance of the behavior change as perceived by direct care staff other than those involved in the treatment procedures.

Method

Subjects

Subjects were chosen from a list of referrals made to

the investigator by unit staff members of Program 11, a residential treatment program for mentally disabled and developmentally disabled adolescents and adults, at Stockton State Hospital. Subjects were selected according to the following two criteria: (a) the occurrence of discrete, nonfunctional motor behaviors involving repeated movements of the hands or arms such that hospital personnel identified the behavior as a problem in the subject's Problem Oriented Record and (b) the targeted behavior occurred at an average rate greater than 40% of all 10 second intervals in three 15 minute preliminary observation sessions.

Five subjects meeting the above two criteria were identified from the original group of referrals and further divided into two groups in the following manner: (a) the three subjects exhibiting the highest rate of behavior as determined by the preliminary observations were identified as experimental subjects and (b) the two remaining subjects were identified as control subjects for a questionnaire given pre- and post-treatment to unit staff members in order to determine perception of change in rates of the subject's behavior by direct line staff.

The subjects, three males and two females, were from 22 to 27 years of age and had been institutionalized an average of 11.7 years with a range of 1.5 to 24 years. The three experimental subjects were two mentally disabled males who were diagnosed as schizophrenic, childhood type,

and one developmentally disabled female with a second classification of chronic undifferentiated schizophrenia. The two control subjects were a mentally disabled male, diagnosed as schizophrenic, childhood type, and a developmentally disabled female. The subjects' I.Q. scores on the Wechsler Adult Intelligence Scale ranged from 43 to 67 with an average of 56.8.

Consent

Experimental subjects were contacted in person and told that they had been selected to participate in a program designed to help them improve their chances of returning to the community. All three subjects were told that the program involved looking at themselves on television and trying to change any behavior that did not look "normal." The subjects were then asked if they wished to participate. All three replied affirmatively. The subjects were volunteer residents over 21 years old and had previously signed treatment consent forms provided by the hospital. Since the VTR feedback procedure was considered as part of their daily treatment program, no formal consent forms were necessary. However, each subject signed photo clearance release forms that pertained directly to the use of videotape recording for the present investigation (see Appendix A).

Settings

The treatment setting was two rooms in a building on the hospital grounds separate from the subjects' living units. Daily recording sessions were held in a room furnished as a living room with a couch, two rocking chairs and several living room chairs. This room was furnished with a complete stereo component set operable during the investigation. The subjects viewed the television monitor in a second room equipped for viewing and editing videotapes and furnished with two straight back chairs placed directly in front of the television monitor.

The generalization setting for the investigation was the subject's own living unit, which was different for each subject. No attempt was made to restrict the subject to any particular area of the unit during generalization observations, but subjects were usually found in large day rooms furnished with chairs and a television set and containing numerous other residents.

Apparatus

Apparatus used included a Panasonic Videotape Recording Unit, complete with camera, tape deck, remote control on/off switch, and television monitor to provide "instant" playback of the subjects' behavior. The apparatus, excepting the monitor, was placed in the experimental setting with the subject. No attempt was made to conceal the recording apparatus.

Dependent Measures

Response definitions. The dependent variable for each individual experimental subject was percentage of occurrence of the targeted behavior in 10 second intervals during 15 minute direct observation sessions. If the behavior occurred one or more times during the 10 second interval, then a single check was placed in that interval on the data sheet. If the behavior occurred at the end of an interval and carried over to the next interval, the behavior was marked as having occurred in both intervals.

Data for the treatment setting were taken by observers viewing the videotapes made earlier that day. The observer was instructed to re-run the tape during data collection as many times as desired. The observers were not informed of what phase of the experiment was in progress, but they may have been cued that changes in the research procedures were in effect, since they were required to take data on the investigator's information delivery when a subject moved from the baseline phase to the information only phase.

Generalization data were taken on the subjects' living unit each time a videotaping session was held. This data collection was performed in the same manner as in treatment setting, except the observer was present to directly record the data rather than recording the data from a videotape recording. The observers used for this data collection were the same observers used for collection of the videotaped

treatment data. It should be noted, however, that these observers had never been present in the treatment setting, preventing them from becoming discriminative stimuli for the absence of the targeted behavior. This measure, then, is indicative of generalization of the behavior change when the VTR apparatus and the investigator were absent but when observers were present.

Definitions for the targeted behaviors of each subject were as follows:

> Subject A - nonfunctional, self-stimulatory gesturing of the hands or fingers: pinch-like movements of the fingers while holding the hands away from the body or against or next to the face, shaking of the hands and fingers, repeated tapping or touching (lasting longer than 3 seconds of any 10 second interval) of any part of the face or neck with any part of a hand or finger, clinching the hands or fingers behind the head and rapidly jerking the arms, or raising the hands in the air or in front of the face as if pointing or waving.
>
> Subject B - nonfunctional, self-stimulatory shaking or moving of the hands and fingers involving repeated touching or hitting (lasting longer than 3 seconds of any 10 second interval) of the fingers or hands against the arm, face, other body parts, physical objects or in the air and touching of the face or head with any part of the fingers or hands for more than 3 seconds without breaking contact, unless the hand is being used as support for the head and no scoreable movements of the fingers of that hand or the other hand and fingers occurs.
>
> Subject C - nonfunctional, self-stimulatory "hand-wringing" in which the subject clasps hands together and jerks or moves fingers or makes washing movements with the hands repeatedly. The hands may be placed against any part of the body or held away from the body such as in front of the face or chest. The response was not scored if the subject clasped hands but did not make any of the above movements.

Definitions, though less detailed, were also generated for Subjects D and E (the control subjects) for the purpose of describing the specific target behavior of interest to the living unit staff members who filled out questionnaires concerning frequency of the behavior on the unit. These definitions were included along with a blank questionnaire in Appendix B.

Observer training. Observer training consisted first of giving each of the two observers the above definitions of the target behaviors of Subjects A - C. The observers were asked to read and study the definitions until they felt that they had memorized them. Next, the experimenter modeled the behaviors of each of the three subjects as described in the definitions and discussed the definitions with the observers. Finally, a role-play situation was enacted in which the observers observed the experimenter playing the role of each of the three experimental subjects. This continued until the observers achieved at least 95% effective reliability on occurrence and non-occurrence of the behaviors.

Reliability. Reliability was taken between the two observers at least once in every four scheduled sessions. These data were taken at the same time by each of the two observers in the generalization setting and from the tapes made earlier in the day in the treatment setting. After each reliability session the experimenter calculated the

reliability in two ways: (a) effective percentage of occurrence and (b) effective percentage of non-occurrence. For the first method, agreements were defined as those intervals in which both observers recorded the occurrence of a behavior and disagreements as those intervals in which one observer recorded an occurrence and the other did not. For the second method, agreements were defined as those intervals in which both observers did not score an occurrence of the behaviors and disagreements were defined as those intervals in which one observer did not score an occurrence, but the other did. The most conservative of these two calculations was used as the percentage agreement for that session. When reliability fell below 85% agreement on either of the two calculations, observers were required to restudy the response definitions, discuss aspects of the definitions which remained unclear to them with the experimenter, and observe a practice tape of the behaviors in question until 85% agreement was obtained.

Questionnaire. In addition to direct measures of the changes in the experimental subjects' behavior, a questionnaire (see Appendix B) was given to unit staff having direct contact with the subject at the beginning and at the end of the experimental manipulations. At the same times, the same questionnaire was given concerning the behavior of the two control subjects who never experienced the experimental manipulations. The staff members were not informed

as to which subjects were treated and which subjects were not.

This questionnaire was developed by generating an item pool which related to staff judgments concerning the quantity of all "deviant" behavior exhibited by the subject and quantity of the specific target behavior exhibited by the subject. Twelve items which seemed to intuitively relate to the construct were then used as the final questionnaire items. On each item staff rated the severity, in rate, of the behavior as perceived by the staff member at the time of questionnaire administration. This provided additional information concerning the generalization of the treatment effects and also provided information concerning the visibility of any improvement to direct care staff.

Experimental Designs

A multiple baseline across subjects was used to evaluate the VTR feedback procedure. The design included baseline, information-only, and VTR feedback phases. The information-only phase was used as a control for the effects of verbal information concerning the investigator's interest with the individual's target behavior (an implicit component of the subsequent VTR feedback phase) and consisted of a statement given to the subject requesting a decrease in the specified behavior. All apparatus were present in all phases of the experiment to control for

possible reactive effects of the VTR equipment, except in the generalization setting where neither the VTR equipment nor the experimenter were ever present.

Procedure

The subjects were brought individually to the experimental setting where the VTR equipment had been set up. Optimum subject coverage was accomplished by placing the camera in a corner location and manipulating the zoom lens to its widest angle setting. The experimenter remained in the area with the subject to operate the stereo equipment or to engage in conversation with the subject regarding daily activities and/or future plans as the subject desired.

Baseline. The experimenter brought the subject to the treatment setting and said, "You have 15 minutes free time to do as you wish in this room. You must stay in this area though." The VTR apparatus was then turned on by a remote switch located on the opposite side of the room from the camera. After a 15 minute sample of the behavior had been recorded, the investigator turned off the camera with the remote switch and said, "Now let's go to a different room and watch television for a while." The subject accompanied the experimenter to the room containing the VTR monitor and watched 15 minutes of daytime television (usually quiz shows or cartoons) with the experimenter. This was to control for extra-therapist contact involved

in the viewing of the recording in a later phase.

Information only. During the information only phase, the investigator brought the subject to the treatment setting and proceeded as in baseline, except that he told the subject at the beginning of each session, "I have noticed that you (describes behavior) a lot (models behaviors). This may be one of the reasons that you are still in the hospital. Why don't you try not to do this as much any more." The tape was turned on immediately prior to this statement so that observers could rate this information delivery later in the day. This information was to be given in a neutral manner. In order to gather data on the neutrality of the delivery of the verbal statement by the investigator, observers were instructed to listen to the information presentation on the first part of the videotape recording and rate the presentation on a 1 to 10 scale. Anchor point 1 was labeled "very threateningly," anchor point 5 was labeled "in a neutral manner," and anchor point 10 was labeled "very encouragingly" (see Appendix C). Examples of these anchors were given to the observers on an audiotape casette, and the observers were requested to listen to the casette periodically during the course of the investigation. After the above information was given, 15 minutes of the subject's behavior was recorded after which the subject and investigator viewed 15 minutes of a television program as in the preceeding phase.

VTR feedback. The VTR feedback phase proceeded as in the information phase. After the recording time had elapsed, the experimenter brought the tape made in the previous 15 minutes to the monitor setting and stated, "I've made some film of you today during your free time and I would like for you to see what it looks like when you (describes behavior)." The investigator then turned on the viewing equipment and pointed out occurrences of the behaviors to the subject by pointing to the screen and saying, "There, you are doing it now!", "There, you just did it!", "That's the behavior we've been talking about.", etc. If more than one minute passed without the subject emitting the behavior, the experimenter would say, "You aren't doing it any more. That is how you look when you don't (describes behavior)." This information was given in a straightforward manner with the experimenter directing the subject's attention to the television screen. Care was taken not to verbally praise the subject for not emitting the behavior. At the end of the tape, the experimenter stated, "You saw what it looks like when you (describes behavior). It looks strange when you do that, you know. In fact, it may be one of the reasons you are still in the hospital. Let's see if you can start doing it less." The session would then terminate. This phase was continued in this manner for the duration of the investigation.

Throughout each phase, observations were taken later in the day on the subject's living unit. These observations were done with one observer present and visible in the setting except during reliability measurements when two observers were used to independently record the data.

Results

Reliability scores for the direct observation data obtained in the treatment and generalization settings are summarized in Table 1. Since the rate of the behaviors varied considerably over the course of the study, the reliability scores reported were chosen by a session by session examination of both the percentage agreement on occurrence and the percentage agreement on non-occurrence of the behaviors between the two observers. The lowest of these two scores in any single session was used as the indicator of inter-rater agreement for that session. For Subject A, inter-rater agreement across both settings ranged from 77% to 100%, with a mean reliability score of 95%. Reliability data collected on Subject B have a range of 75% to 100% across both settings with a mean reliability score of 90%. For Subject C, reliability ranged from 50% to 100% in the two settings with a mean score of 93%.

Table 1 also shows reliability scores obtained in each of the two settings and gives a range and mean score for

Table 1

Summary of Reliability Scores

Reliability Session #	range 1-3	$\bar{x}$ 1-3	range 4-6	$\bar{x}$ 4-6	range 7-9	$\bar{x}$ 7-9	range 10-11	$\bar{x}$ 10-11	$\bar{x}$ 1-11
Reliability in Teatment and Generalization Settings* (percentage agreement)									
Subject A	77-100	91	87-100	93	90-100	97	95-100	99	95
Subject B	75-91	84	79-100	89	86-100	95	84-100	93	90
Subject C	50-97	86	94-100	97	86-100	96	86-100	95	93
Reliability in Treatment Sessions only (percentage agreement)									
Subject A	77-100	92	87-97	92	100-100	100	100-100	100	96
Subject B	83-91	86	79-88	83	92-100	96	100-100	100	91
Subject C	87-97	94	100-100	100	92-93	93	86-100	93	94

* These data are a composite of the data appearing in the bottom two-thirds of the table.

Table 1. Continued

Reliability Session #	range 1-3	$\bar{x}$ 1-3	range 4-6	$\bar{x}$ 4-6	range 7-9	$\bar{x}$ 7-9	range 10-11	$\bar{x}$ 10-11	$\bar{x}$ 1-11
Reliability in Generalization Sessions only (percentage agreement)									
Subject A	81-95	89	89-100	95	90-100	95	95-100	97	94
Subject B	75-85	80	70-100	95	86-100	93	84-85	85	89
Subject C	50-97	79	94-95	95	86-100	95	95-100	97	91

every three consecutive reliability sessions. These data indicate that as the observers became more experienced with the observation procedures and received further training when reliability scores fell below acceptable levels, the inter-rater agreement steadily increased.

Figures 1 and 2 represent records of each subject's target behaviors over consecutive sessions in the treatment and generalization settings. Data are plotted as the percentage of 10 second intervals in which the subject emitted the target behavior in each session.

Figure 1 reveals that all three subjects emitted an initial high rate of the targeted behavior in the treatment setting during baseline. Subject A was observed to emit an inappropriate hand gesture during a mean of 85% of the intervals across 12 sessions, Subject B's gesturing occurred during a mean of 69% of the intervals across 25 sessions, and Subject C was observed to handwring during an average of 58% of the observed intervals across 28 sessions. During the information phase a slight decrease in the behavior of all three subjects occurred in the treatment setting, resulting in mean observed occurrences across sessions of 66%, 52%, and 54% respectively for Subjects A, B, and C. This decrease, though replicated across all three subjects, was slight and of little clinical significance. After introduction of the VTR-feedback procedures, a rapid decrease in the occurrence of the target behaviors of all subjects was

observed. Subject A's mean rate across 20 treatment sessions decreased to 7% of observed intervals, Subject B emitted the target behaviors in a mean of only 6% of observed intervals across 15 treatment sessions, and Subject C's rate of inappropriate behavior decreased to a mean of 5% of observed intervals across 7 treatment sessions. In each case this stable decrease was observed only subsequent to introduction of the treatment procedures. However, when treatment was instituted for Subject A, a transient but concurrent decrease in rate for Subject C was also observed. This concurrent decrease in rate for Subject C when treatment was introduced for Subject A casts some doubt on the functional control of the treatment procedures, but since Subject B remained stable and Subject C soon regained her previous operant level, it appears that Subject C's decrease was due to extraneous variables affecting only Subject C at the time of intervention on Subject A.

In order to evaluate the manner in which the verbal information was delivered to the subjects in the information phase, observers rated the verbal statements involved on a 1 to 10 scale, with 1 representing a very threatening delivery and 10 representing a very encouraging delivery of information. This rating was done immediately after listening to the videotape recording of the treatment session held earlier that day. Observers rated the statements made to Subject A a total of 31 times. The range of

these ratings was 4 to 6 with a mean rating of 5.1 and a standard deviation of .52. Verbal statements made to Subject B were rated 26 times. A range of 5 to 7 with a mean rating of 5.3 and a standard deviation of .57 was obtained. Statements made to Subject C were rated 13 times and ranged from 5 to 6 with a mean rating of 5.2 and a standard deviation of .36. These data indicate that the verbal statements given the subjects were consistently rated as neutral by the observers.

On the same days that treatment data were taken on the subjects, data were also collected in the generalization settings. Figure 2 shows the information obtained on the degree of generalization of treatment effect to the subject's living units. As in the treatment setting, all three subjects displayed a high rate of the target behavior on the living units during baseline, having mean scores over sessions of 57% for Subject A, 72% for Subject B and 38% for Subject C. Subject C's data during baseline observations was highly unstable and exhibited a downward trend during most of the phase. The data for Subjects A and B, however, were relatively stable. When information was given to the subjects in the treatment setting, no effect was noticed on the living unit for Subjects A and B. Once again, the data for Subject C began a downward trend and remained highly variable. Since decisions were made to intervene by examining the treatment data and not the corollary

generalization data, Subject C was given VTR-feedback in the treatment setting despite the inconclusive data obtained in the generalization setting. After introduction of the VTR-feedback phase, Subjects A and B showed a marked but variable decrease in the rates of the targeted inappropriate behaviors on their respective living units. Subject A emitted the behaviors during a mean of 29% of the observed intervals over 20 observation sessions, and Subject B emitted the behavior during a mean of 27% of the intervals across 15 observation sessions. Though no generalization effects can be claimed due to the experimental procedures for Subject C, her mean rate over sessions of hand-wringing dropped from 38% during baseline to 21% during VTR-feedback. For Subjects A and B, a decrease in the rate of the targeted behaviors on the living unit appears to have occurred only after intervention with VTR-feedback in the treatment setting. Subject C's decrease in behavior appears to be correlated neither with intervention for Subjects A or B nor with introduction of VTR-feedback treatment procedures in the treatment setting.

Missing data points in Figures 1 and 2 are due to the subjects' illnesses, unauthorized absences from the hospital or uncontrollable and unscheduled home visits.

The results of the questionnaire given pre- and post-intervention to staff members on the subjects' living units are summarized in Figure 3. The questionnaire was designed

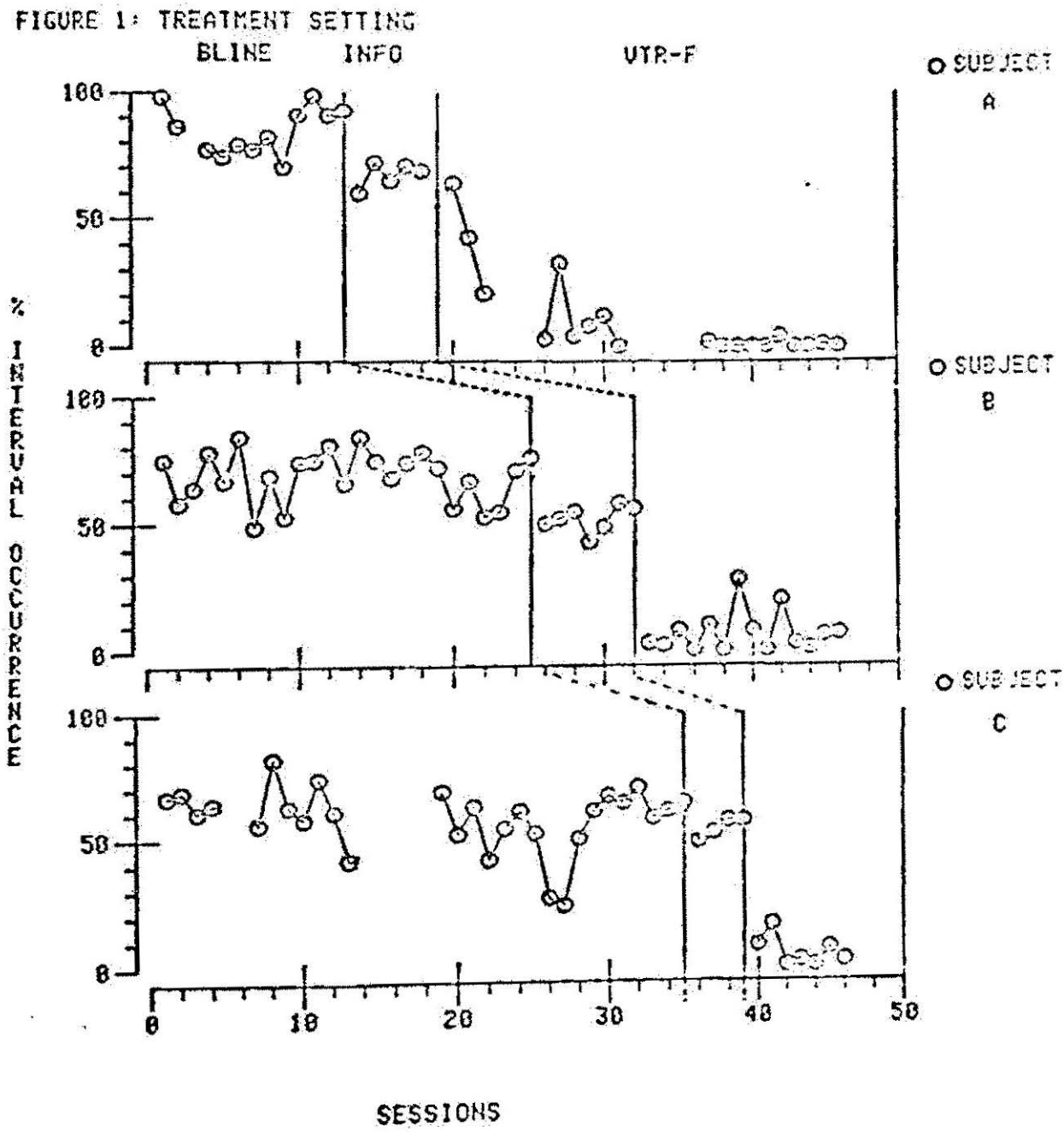

Figure 1. Percentage of 10-sec. intervals in which the three experimental subjects emitted the targeted behaviors in the treatment setting.

FIGURE 2: GENERALIZATION SETTING

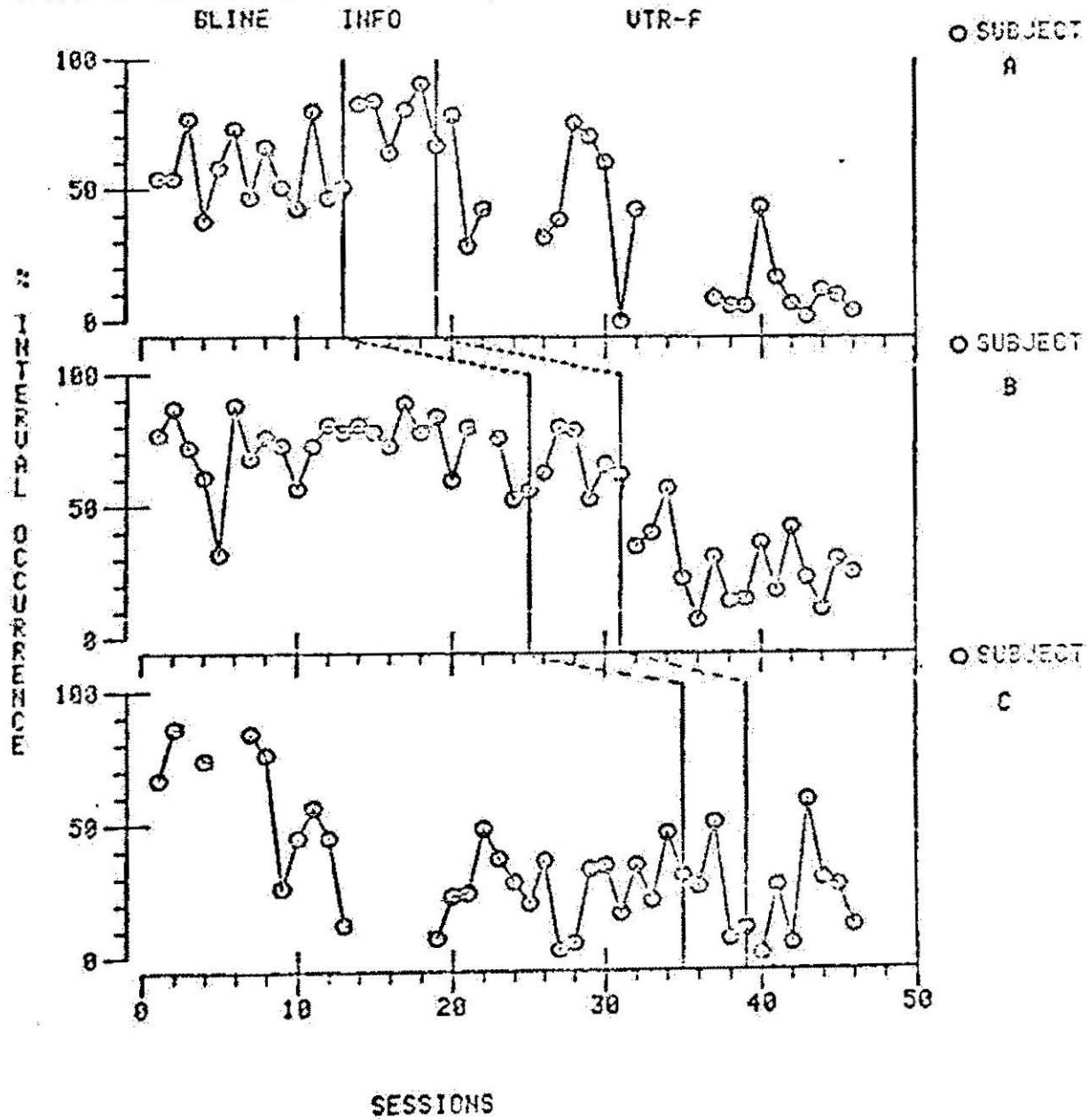

Figure 2. Percentage of 10-sec. intervals in which the three experimental subjects emitted the targeted behaviors in the generalization setting.

FIGURE 3: PRE- AND POST- INTERVENTION QUESTIONNAIRE RESULTS

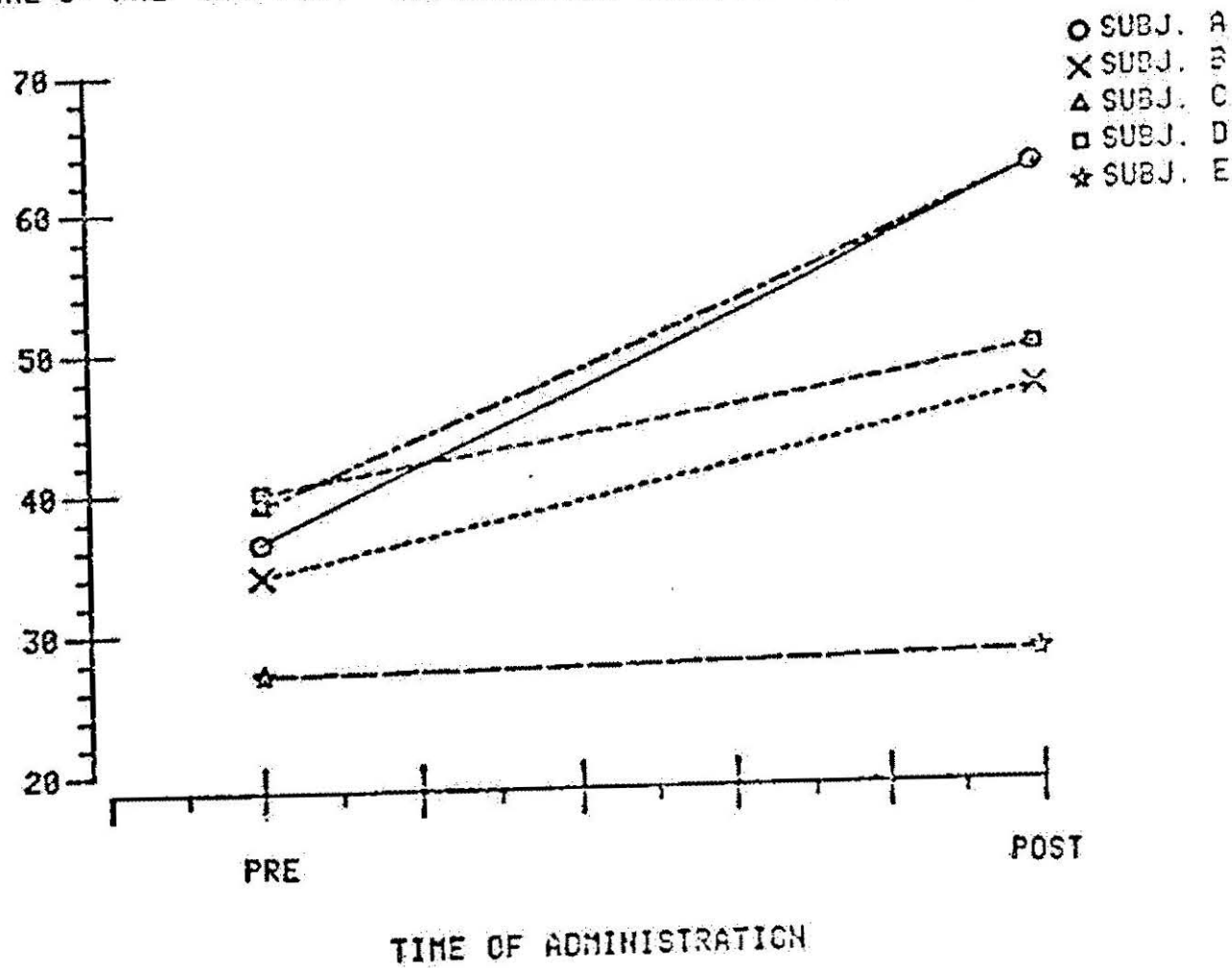

Figure 3. Pre- and post- intervention ratings by staff members on the subject's living units. Increasing scores indicate a greater perceived decrease in the subjects' inappropriate behavior. Sujects A, B, and C received VTR-feedback, Subjects D and E did not.

so that the greater the score on the questionnaire, the greater the perceived decrease in the subject's inappropriate behavior. As can be seen through examination of Figure 3, staff members indicated a change in the desired direction, not only for the three treatment subjects, but also for one of the control subjects. Subjects A, B, and C, those subjects who actually did receive VTR-feedback, all show a definite increase from pre- to post- intervention ratings by the staff members. Post-intervention ratings on Subjects A and C appear to be much greater than pre-intervention ratings, but ratings for Subject B were less encouraging. However, Subject D, who never received VTR-feedback, also showed some increase in staff ratings. Ratings on Subject D appear to indicate a change in staff perceptions of the rate of the targeted behavior. Ratings on Subject E do not appear to have increased over pre-intervention measurements.

These data were analyzed statistically by using the least squares solution for a split-plot factorial 2.2 design (Kirk, 1968). Table 2 is the analysis of variance table for the least squares solution. No statistically significant treatment or interaction effects were found.

In summary, visual inspection of these data seem to indicate some increase in staff ratings for Subjects A, B, and C, a slight increase in staff ratings for Subject D and no increase in ratings for Subject E. Statistical

Table 2

Analysis of Variance Table for Least-Squares Solution

	Source	SS	df	MS	F
1	Between subjects	17,427	4		
2	A (group	6,019.9	1	6,019.9	1.58
3	Subj w. groups	11,407.1	3	3,802.4	
4	Within subjects	20,292.5	5		
5	B (Pre/Post)	14,086.5	1	14,086.5	5.66
6	AB (Interaction)	3,717.9	1	3,717.9	4.48
7	B x subj w. group	2,488.1	3	829.4	
8	Total	37,719.5	9		

Note. No significant F values.

analysis, however, indicates that staff ratings did not increase for subjects in the experimental group significantly more than the ratings increased for subjects in the control group.

Discussion

Through the use of a multiple baseline design across subjects, this investigation indicates that videotaped feedback was highly effective in decreasing the rate of inappropriate, bizarre mannerisms in three institutionalized individuals. The behaviors were targeted prior to intervention and stable baseline rates of the behaviors were determined prior to technique implementation. The sequential introduction of the audiovisual feedback of sequences of inappropriate behavior and the subsequent drop in the rate of behavior in each of the three subjects indicate a strong functional relationship between VTR-feedback and actual rates of the behavior in later treatment sessions. The possibility that this change is only a response to the demand characteristics of the VTR-feedback is minimized by the small effect generated in the information-only phase. In this phase, the experimenter told the subject that the subject's behavior was being observed, that it was occurring at a high rate, and that it would be advantageous to decrease its rate of occurrence.

Although some positive results have been reported for VTR-feedback in the past, the present study clearly defined the methodology used, specified the behaviors to be changed, and in addition allowed for more detailed evaluation of the magnitude and rate of change produced by the procedure not available in the research to date (e.g., see Bailey & Sowder, 1970; Griffiths, 1974). Examination of Figure 1 indicates that all three subjects immediately began to decrease the rate of behaviors pointed out to them on the videotape once the treatment had been implemented. The frequency of the inappropriate gesturing of Subjects A, B, and C was substantially reduced when they began to receive audiovisual information concerning it. Interestingly, the high magnitude of change was achieved very rapidly. Subjects B and C reached low rates of the behaviors after the very first feedback session, and Subject A achieved a marked decrease after a very short "tapering off" period lasting only three sessions.

The magnitude and rate of change in the generalization setting, however, is not impressive. Figure 2 indicates that several sessions were required before decreases in the rate of the behavior could be confidently identified for Subjects A and B. Not only was the rate or change in the generalization setting much lower than in the treatment setting, but the magnitude of change was also much less for Subjects A and B. Although generalization data were quite

variable for all three subjects, Subject C's data were so variable as to be useless for making inferences of generalization effects. In fact, a decrease in the behavior in the generalization setting during baseline for Subject C without a similar decrease in the treatment setting data for that subject might lead one to believe that variables in the generalization setting were causing a decrease in the behavior on the living unit which did not generalize to the treatment setting until VTR-feedback was implemented there. A check of unit records and interviewing of staff members indicates that no consistent treatment plan did exist for the subject. It should be noted, however, that this subject's primary counselor at the hospital was aware of the experimenter's interest in Subject C's behavior and had been observed by a colleague of the experimenter prompting the subject "not to wring her hands like that."

These differences between the treatment and generalization settings in rate and magnitude of change in the behavior are not surprising. Baer, Wolf and Risley (1968) point out that a consistent finding in behavior analysis research is that unprogrammed generalization, such as that found in the present study, seldom occurs. In fact, it is a strong argument in favor of the use of the technique with this population that this degree of generalization was found as a byproduct of implementation of the videotaped feedback procedure only in the treatment setting.

Interestingly, this generalization cannot be explained as due to the control of stimuli present in both settings. Neither the experimenter nor the apparatus were ever present during collection of the generalization data. Also, since the observers used in the study were never present during treatment sessions, their presence was not a discriminative stimulus for the absence of the targeted behaviors. Although the subjects knew that they were being observed when the observers were present, no indication exists that they were aware of what the observers were recording on their data sheets, though no indication exists that they weren't either.

The questionnaire given to living unit staff members provides additional data on the effectiveness of VTR-feedback. Although not statistically significant, visual inspection of the results of this questionnaire seem to suggest that staff members were aware of change in the behaviors of Subjects A and C, and slightly aware of a change in Subject B. This could indicate that the change was apparent to staff members not involved in the investigation, and therefore that the change was of some clinical significance. This could indicate that the staff members were highly influenced by the fact that the investigator was interested in changing the behavior of subjects in question and responded in a manner deemed by them as desirable by the experimenter. There seem to be indications that the latter explanation holds some validity

since a slight increase in questionnaire scores was also seen for Subject D, a control subject. However, Subject E, a second control subject, was not rated as improved over time. Though the consistent rating of the experimental subjects as improved is encouraging, the evaluation of the rate of the behaviors by the staff members gives no sound support to the clinical relevance of the changes obtained. Wahler and Leske (1973) found that asking individuals familiar with a subject to make global ratings of behavior change without the gathering of data on which to base their judgments resulted in the individuals' neglecting to detect change until rates of the behavior had reached very low levels. Since the generalization of treatment effects in this investigation was not large, the staff may have been responding to their past experience with the subjects as well as to the actual current rate of the subjects' behaviors, and therefore did not detect as much change as indicated by the direct observation data.

The results discussed above give information that may help to clarify and explain positive effects found in earlier research. Particularly in research done by psychotherapists, the subject receives videotaped replay of recent behavior emitted in a prior therapy session and changes in later sessions are then observed (Braucht, 1970; Robinson & Jacobs, 1970). These changes often occur after only one exposure to the procedure and have been great enough

for Robinson and Jacobs to conclude that the treatment was quite beneficial to their clients. The data in the present study substantiate these results in that they indicate that individuals can be expected to respond in the desired direction of change very rapidly in the setting where the VTR-feedback is given as well as exhibit a clinically relevant magnitude of change in this setting. However, the present analysis of generalization effects indicates that the procedure should be used with attention given to increasing the weaker generalization effects. This point seems to be of considerable importance for clinicians who may use the technique, see remarkable and rapid improvement in the treatment setting between treatment and control groups, and in their excitement, overlook examining the effects of the treatment in extra-therapy sessions.

A question raised in the behavioral research dealing with videotape recorded feedback is whether or not change can be expected without the therapist focusing the client's attention on the specific behaviors targeted for change. Shean and Williams (1973) reported little difference in improvement between two groups of chronic psychotic patients, one of which received focused and one of which received unfocused VTR-feedback of sequences of maladaptive behaviors. However, Esveldt, Dawson, and Forness (1974) used VTR-feedback to change disruptive behaviors of elementary school children and found that viewing the tapes alone was effective

in decreasing the inappropriate behavior in both their subjects, while the addition of teacher discussion to the procedures added to the decrease in one subject but not for the other.

In the present study, focusing the attention of the subjects on the behaviors as they occurred was part of the procedure in each case. In fact, by the time that the videotapes were shown to the subjects, their attention had already been directed to the behavior in the proceeding information phase. Since repeated focusing of attention on the behavior began in the information phase and resulted in only minimal change, it appears that simply pointing out the behavior was not the primary variable involved in the observed change in the VTR-feedback phase. However, future research could use the procedure described in the present study but with elimination of the information phase and elimination of the focusing of the subject's attention during the viewing of the tapes to more clearly discern if subjects from this population would identify and change the behaviors without the behaviors being pointed out to them. Anecdotally, the subjects appeared to quickly identify deviant behaviors on their own, and some even began to point out mannerisms not specifically targeted by the experimenter and appeared to subsequently attempt to control them. For example, Subject A, in addition to hand gesturing, would repeatedly nod his head in rapid, jerky motions. He,

and not the experimenter, was the first to comment on this behavior.

From the data presented in this investigation and the reports of positive results in studies using similar procedures, it appears that feedback using videotapes of the subject's own behavior indeed facilitates behavior change. Therefore, speculation on the potential treatment value of the technique and the mechanisms by which the procedure produces behavior change appears warranted.

The treatment potential for VTR-feedback seems to be quite broad. VTR apparatus is now prevalent in many schools, mental health centers and institutions (Stern, 1976). If the equipment is also used in direct client treatment, rather than exclusively as a training aid for use with practitioners, its value as a clinical tool can be greatly increased. The use of videotapes to give feedback on appropriate or inappropriate responses can insure that the feedback given is descriptive, accurate and easily understood. Instead of describing and modeling the behavior, a therapist can actually show a client exactly what the behavior looks like when the client himself is performing it. In addition, the individual can then be required to observe, count and evaluate the behavior contained on the video sequences if the practitioner so desires. A very important aspect of the use of videotapes in applied settings is the fact that they can be extremely convenient in individualizing

treatment given primarily in group settings. For example, a person in charge of a large group of individuals can set up the videotape apparatus and record the behavior of separate individuals to be used later in providing feedback to them concerning their behavior. If such VTR-feedback was then to be combined with systematic programming to maximize generalization effects it could indeed become an effective procedure for use with many populations.

Although the clinical potential of VTR-feedback seems clear, the mechanisms by which the procedure produces behavior change are not. An understanding of how VTR-feedback of inappropriate behavior results in decreases in rates of targeted behaviors would be helpful in the future development of the technique.

Decreases in inappropriate, tic-like behaviors, similar to those found in the present study, have also been obtained by the use of procedures such as habit reversal (Williamson, Note 2), overcorrection (Foxx & Azrin, 1973), and self-monitoring (Maletzky, 1974). In habit reversal, the subject is required to count the occurrences of the behavior and to engage in an exercise which is incompatible to the behavior immediately after its occurrence (Williamson, Note 2). Williamson found that the procedure reduced the targeted behavior in her two subjects in the treatment setting, but generalized only slightly. Overcorrection is a second procedure used by behavior analysts to decrease

specific, maladaptive behaviors. In this procedure, a period of practice in the correct mode of the behavior or in an incompatible response is made contingent on the occurrence of an inappropriate behavior (Foxx & Azrin, 1973). Foxx and Azrin found that this procedure reduced targeted behaviors in four children who exhibited such behaviors as object-mouthing, hand-mouthing, hand-weaving and hand-clapping. A third technique which also has been reported to result in a decrease of inappropriate behavior is self-monitoring. In self-monitoring, the subject counts the occurrences of his own behavior. It has been found that self-monitoring alone causes behavior to change in the desired direction (Maletzky, 1974). Maletzky found that requiring subjects to count such behaviors as scratching and fingernail biting changed these behaviors in the desired direction.

In all three of these techniques, as well as in VTR-feedback, the subject's attention is repeatedly drawn to the target behavior. In habit reversal and overcorrection, mildly aversive contingencies (i.e., engaging in an exercise, repeatedly practicing incompatible behaviors) are subsequently applied after the subject emits the response in question. This points to the possibility that in this investigation the subjects found viewing their mannerisms aversive and therefore behaved to avoid the punisher of seeing themselves act in an undesirable manner. However,

in self-monitoring, no immediate contingencies exist and yet the behavior monitored is observed to change in a desired direction. VTR-feedback as used in the present study seems most similar to self-monitoring in that attention is required to be directed towards the targeted behavior and no immediate consequation of the behavior is provided. Since the behavior originally occurred at a high rate for all of the subjects in this investigation, and since each subject was informed of the undesireable nature of the behavior, the behaviors that were inappropriate and the decreases that occurred in these behaviors could become very apparent to the subject as a function of repeated exposure to the videotaped information, just as in self-monitoring decreases may occur as a function of repeated exposure to information about the frequency of a targeted behavior. Indeed, the response feedback coupled with the labeling of the response as undesireable might be the important components in VTR-feedback and self-monitoring and a highly active component in habit reversal and overcorrection.

The above explanations seem to fit VTR-feedback of inappropriate behavior to some extent, but do not answer questions about why the behavior change would generalize to the extent that it did for Subjects A and B, especially since no systematic programming for generalization was part of the treatment procedures and no immediate or obvious contingencies of reinforcement for appropriate

behavior were applied in either treatment or generalization settings.

In order to explain the change in either setting, a major question concerns what contingencies were operating to effect the behavior change. If, as discussed above, the subjects were behaving to avoid aversive stimuli contained in the videotapes, what made the behavior aversive and why did the behavior also decrease in a setting in which the videotapes were never shown? Bandura (1977) has stated that observational learning is a frequent means through which individuals change their behavior. He states that when response information is conveyed through observational processes concerning the appropriateness or inappropriateness of a behavior, "cognitive representations of contingencies" are produced which may come to control the individual's behavior even though no actual consequation has ever occurred with respect to the observing individual. Following this line of reasoning, once the individual had been exposed to the visual representation of the behavior and the behavior had been labeled as undesirable by the investigator, contingencies may have been set up by the subject that made both seeing and performing the behavior aversive. For example, Subject B, after learning that hand waving was helping to keep him in the institution and after seeing himself repeatedly performing the behavior, may have set up contingencies which in effect said, "If I do this people

will think I'm crazy. If I do not do this people may not think I'm crazy." Some support exists for this type of cognitive behavior. For example, Subject A was repeatedly heard to say, "That's crazy" when asked why he no longer gestured with his hands so much.

Nevertheless, the mechanisms at work in the present study are certainly not clear and several directions for further research are indicated. First, the question of whether or not the subjects could or would independently identify maladaptive mannerisms as bizarre and consequently change them is unanswered by the present investigation. As indicated above, this research could be done by simply omitting the information phase and the directed comment of the therapist during VTR-feedback. A second area of potential research would be to investigate whether or not the effects would replicate across therapists, since it is possible that in the present study the investigator may have responded in ways that his own behavior came in control of the subject's behavior rather than the VTR-feedback being the controlling variable. Also, a comparison of treatment and generalization effects between the VTR-feedback procedure and the similar habit reversal and over-correction procedures might yield interesting evaluative results. Such research may help to determine exactly what variables in the VTR-feedback are controlling the behavior and what theoretical framework best explains the

procedure's apparent effectiveness. In fact, perhaps the most important contribution of the procedure may be that it can potentially facilitate research into cognitive variables not accessible with techniques such as overcorrection or habit reversal.

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Appendix A

Videotape Consent Form

Photo Clearance Release Form

I give my permission for _____ to be videotaped for the purpose of a program designed to decrease behaviors which may be contributing to continued hospitalization. No other use will be made of the material outside of the program. After the program is completed, I understand that the tapes will be erased.

Signed _____

Date _____

Relationship _____

Witness _____

Date _____

Appendix B

Staff Questionnaire

INSTRUCTIONS

Please circle the number on the 1 to 10 scale which best corresponds to your answer for each of the items. I have placed one or two words at the beginning, middle and end of the scale to give you an idea of what the points should be interpreted as meaning.

Please read the description of the resident's target behavior before beginning the questionnaire and at any time while you are filling it out. The description of the specific target behavior can be found on the next page.

EXAMPLE:

1. I believe that the resident's grooming is:

very poor			about average						excellent
1	2	(3)	4	5	6	7	8	9	10

The person who circled the 3 on this scale would be indicating that although he/she did not feel that the resident's grooming was extremely inappropriate, it could be considered less than average for a person not living in the hospital.

Resident:

Subject A

DESCRIPTION OF SPECIFIC TARGET BEHAVIOR:

The specific behavior of that I am working with is his habit of repeatedly gesturing with his fingers and hands. This appears to be for no functional reason and could be classified as "bizarre" and "self-stimulatory." Examples of this behavior are the rapid pinch-like movements of the fingers while he holds his hands away from his body or next to his face, his rapid tapping of his hands or fingers on his face or on any other parts of his body and his gesturing into the air with his hands as if he were waving or pointing for no particular reason.

Resident:

Subject B

DESCRIPTION OF SPECIFIC TARGET BEHAVIOR:

The specific behavior of 's that I am working with his his habit of repeatedly shaking and gesturing with his hands and fingers. This shaking occurs for no apparent reason and could be classified as bizarre or self-stimulatory. Examples of this behavior is when repeatedly hits or touches his fingers or hands against his arm, against his face or against any physical object. Sometimes will also gesture with his hands and fingers by repeatedly raising them into the air as if pointing or waving for no particular reason.

Resident:

Subject C

DESCRIPTION OF SPECIFIC TARGET BEHAVIOR:

The specific behavior of that I am working with is her constant "hand-wringing." This "hand-wringing" occurs for no apparent reason and could be classified as bizarre of self stimulatory. Examples of this is when clasps both hands together next to any part of her body and moves her hands and fingers either in jerking or tapping motions or round and round as if she were washing her hands.

Resident:

Subject D

DESCRIPTION OF SPECIFIC TARGET BEHAVIOR:

The specific target behavior of that I am interested in gathering information on is his frequent gesturing with his hands in front of his face. These movements can be considered bizarre and self stimulatory. Examples of this are when he is mad or frustrated, will grimace and make movements with his fingers and hands placed close to his face and also when makes movements in front of his face at any other times.

Resident:

Subject E

DESCRIPTION OF SPECIFIC TARGET BEHAVIOR:

The specific target behavior of that I am interested in gathering information on is her habit of frequently touching people and objects. Examples of this behavior include when is standing in the day room and she walks over to a chair, puts a finger on the chair, holds it there for a few seconds, removes it and than walks over to the next chair and does the same thing again. This also can occur when she talks to people, since she will repeatedly touch different parts of their bodies.

RESIDENT _____

YOUR NAME _____

QUESTIONNAIRE

Please fill out all items on this questionnaire. Remember to refer to the preceeding page for a description of the specific target behavior for this subject (p. 3). Instructions and examples on page 2.

1. This resident's overall behavior on the living unit at this time is:

quite bizarre			only slightly bizarre						normal
1	2	3	4	5	6	7	8	9	10

2. If released today, this client would quickly be recognized as "odd" by people not in the mental health profession.

strongly agree			slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

3. The specific target behavior described on the preceeding page presently occurs:

quite frequently			a few times a day						almost never
1	2	3	4	5	6	7	8	9	10

4. The presence of the specific target behavior (described on the preceeding page) at its current rate would make the client's release from the hospital unlikely.

strongly agree			only slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

5. The resident's rate of all bizarre behaviors on the living unit is:

very high			slightly high						very low
1	2	3	4	5	6	7	8	9	10

6. The presence of this resident's specific target behavior (described on p. 3) at this time and at its current rate is considered:

a serious problem			of some concern						an insignificant problem
1	2	3	4	5	6	7	8	9	10

7. At most times during the day, I would expect the resident's specific target behavior (described on p. 3) to be occurring:

strongly agree			slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

8. If the resident were taken on a shopping trip in to town today, I would expect that people would quickly notice the specific target behavior (described on p. 3);

strongly agree			slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

9. At its present rate, I believe the specific target behavior as described on p. 3 of the questionnaire would interfere with the rehabilitation of the individual:

strongly agree			slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

10. If a new staff member were to be assigned to this unit, I expect that he/she would rapidly notice the behavior:

strongly agree			slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

11. The resident's overall adjustment on the living unit at this time is:

very poor			needs improvement						very good
1	2	3	4	5	6	7	8	9	10

12. If I were to spend 15 minutes talking to this resident today, I would expect to see this resident's specific target behavior as described on p. 3 of this questionnaire occur quite frequently:

strongly agree			slightly agree						strongly disagree
1	2	3	4	5	6	7	8	9	10

Appendix C

Information Delivery Rating Form

Information Delivery

Rating Form

At the beginning of the videotapes you will begin to hear the experimenter give the subject information about his/her behavior. The first subject you will hear receive this information will be Barry. As others start receiving information, you will be notified.

You will be asked to rate on the 1 to 10 scale below the manner in which this information is given. Look at the scale. Notice that there are three anchor points labeled with descriptive words (i.e., very threateningly, in a neutral manner, and very encouragingly). Listen to the audiotape examples of these anchors as provided to you by the investigator. Listen to this tape several times to acquaint yourself with the standardized meaning of the anchor points.

When the videotape begins, listen to the experimenter give the information, rate this on the scale below, and begin observation as usual after the experimenter has finished delivering the message.

threateningly			in a neutral manner					very encouragingly	
1	2	3	4	5	6	7	8	9	10